2020-21 NM ENERGY STORAGE WORKSHOP SERIES:

MULTIPLE USE APPLICATIONS AND RESILIENCE

FEBRUARY 9, 2021 AGENDA / SPEAKER BIOS / WEBINAR LINK

Presented by DOE Office of Electricity Energy Storage Program,
in collaboration with the New Mexico Public Regulation Commission and Sandia National Laboratories

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The Energy Transition Act of NM (NM ETA) requires the state's retail electricity sales to be carbon free by 2050. The New Mexico Public Regulation Commission (NM PRC) began meeting that objective recently when it unanimously approved a plan to replace the coal-fired San Juan Generating Station near Farmington, N.M., with 650 MW of photovoltaics (PV) and 300 MW of energy storage by 2022. These brief webinars will explore the energy storage and other technologies, and policies associated with them, necessary to achieve the NM ETA objectives, and to help inform regulators and policy makers, utilities, industry, and the public on the pathways to meeting them.

February 9, 2021 - Multiple Use Applications and Resilience

10:00 – 10:10	**Introductory Comments** **Dr. Imre Gyuk, Director, DOE Office of Electricity Energy Storage Program**
10:10 – 10:40	**ES & Multiple Use Applications** **Ray Byrne, Sandia National Laboratories**
10:40 – 10:50	**Q&A and Discussion**
10:50 – 11:20	**ES for Resilience** **Bobby Jeffers, Sandia National Laboratories**
11:20 – 11:30	**Q&A and Discussion**
11:30 – 11:50	**Policy and Planning for Resilience** **Jeremy Twitchell, Pacific Northwest National Laboratory**
11:50 – Noon	**Q&A/Discussion**

After taking a B.S. from Fordham University, Dr. Imre Gyuk did graduate work at Brown University on Superconductivity. Having received a Ph.D. in Theoretical Particle Physics from Purdue University he became a Research Associate at Syracuse. As an Assistant Professor he taught Physics, Civil Engineering, and Environmental Architecture at the University of Wisconsin. Dr. Gyuk became an Associate Professor in the Department of Physics at Kuwait University where he became interested in issues of sustainability. Dr. Gyuk joined the Department of Energy to manage the Thermal and Physical Storage program. For the past two decades he has directed the Electrical Energy Storage research program in the Office of Electricity, developing a wide portfolio of storage technologies for a broad spectrum of applications. He supervised the $185M ARRA stimulus funding for Grid Scale Energy Storage Demonstrations and is now partnering with the States on numerous storage projects for grid resilience. His work has led to 12 R&D 100 awards, two EPA Green Chemistry Challenge Award, and Lifetime Achievement Awards from ESA and NAATBatt. He is internationally recognized as a leader in the energy storage field.

Raymond Byrne is manager of the Electric Power System Research department at Sandia National Laboratories, where he has been employed since 1989. He holds a BS in electrical engineering from the University of Virginia, an MS in electrical engineering from the University of Colorado, and a PhD in electrical engineering from the University of New Mexico. He also completed an MS in financial mathematics (financial engineering) at the University of Chicago. Previously, he was a distinguished member of the technical staff, which is limited to a maximum of 10 percent of the engineering staff at Sandia. Awards include 2001 Time magazine invention of the year in robotics, the Prize Paper award at the 2016 IEEE Power and Energy Society General Meeting, and the IEEE Millennium medal. Byrne was elevated to IEEE Fellow in 2017 for contributions to miniature robotics and grid integration of energy storage.

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FEBRUARY 9, 2021 - SPEAKERS, CONTINUED

Dr. Robert "Bobby" Jeffers has helped to build a growing body of energy resilience research at Sandia since 2013. Bobby applies techniques such as system dynamics, power systems modeling, interactive visualization, agent-based modeling, and spatial network modeling to diverse problems concerning the intersection between human, natural, and engineered systems – particularly energy systems. He currently works directly with programs in 8810 and 8720, interacting with multiple customers within DOE-OE, DOE-EERE, and DoD energy offices, and has strategically crafted several successful proposals in the energy resilience space. Bobby's passion for improving real-world sustainability and resilience has been demonstrated by his ability to form large teams working collaboratively with external partners and stakeholders such as city governments, electric utilities, non-profit organizations, and national laboratories. Bobby began his career as a research scientist at Idaho National Laboratory, where he served as Principal Investigator on three diverse projects simulating the energy-water nexus, critical material supply chain economics, and novel concepts for integration of renewable energy on the power grid.

Jeremy Twitchell is an energy research analyst at the Pacific Northwest National Laboratory, where he leads the equitable regulatory environment area of the PNNL Energy Storage Program and assists in distribution system planning research. In those roles, he is responsible for reaching out to states to provide technical assistance in analyzing energy storage and other developing energy resources and incorporating them into utility planning and procurement activities. Prior to joining PNNL, Jeremy spent five years at the Washington Utilities and Transportation Commission, where he was the staff lead for the development of policies associated with the treatment of energy storage in utility resource planning and rulemaking. His work has supported integrated resource planning, which included development of a distribution planning rule. He participated in multiple utility advisory groups on energy efficiency and resource planning, provided expert testimony in the areas of rate design and resource acquisition, and oversaw renewable resource portfolio standard compliance. He also testified before the Washington State Legislature and prepared a report to the Legislature on best practices in distribution system planning. He has presented on the topics of energy storage, renewable resource portfolio standards, and renewable resource integration at regional, national, and international conferences.